## MINUTES OF THE FOURTEENTH MEETING OF THE PUBLIC SAFETY NATIONAL COORDINATION COMMITTEE

**Date/Time:** Friday, November 16, 2001: Meeting commenced approximately 9:30 a.m.

**Address:** New York Marriott Brooklyn

333 Adams Street,

Brooklyn, New York 11201

**Attendees:** See attached list

Convening of Meeting. Michael Wilhelm, Designated Federal Officer ("DFO") for the National Coordination Committee ("NCC"), opened the meeting by saying that that the NCC Chair, Kathleen Wallman, was unable to attend and that, at her request, he would preside at the meeting. He noted that the New York meeting had been called in response to requests by some NCC members who wanted to hear, first hand, of interoperability issues that arose during the World Trade Center and Pentagon attacks.

Remarks of Tom Sugrue. Tom Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission ("FCC"), was introduced by Mr. Wilhelm. Mr. Sugrue acknowledged the remarkable efforts made by public safety communications professionals during the World Trade Center and Pentagon attacks. He mentioned that the public safety communications system was under extraordinary pressure in the hours immediately following the attacks, and the available channels were very crowded and interoperability problems arose when responders using incompatible radio equipment were unable to speak with one another because of incompatible radio equipment. He also encouraged the NCC to complete its recommendations for a wideband data standard as soon as possible. With regard to clearing the 700 MHz band of incumbent television stations, Mr. Sugrue pointed out that it is not a matter completely within the Commission's control and that Congressional action would be helpful in setting a firm, fixed date for the DTV transition. He also said that Canada and Mexico are considering harmonizing their 700 MHz allotments with those of the U.S. and eventually clearing the 700 MHz band of television stations. Funding for public safety systems is essential, he said, and urged the NCC membership to take that message to their state and federal legislators because funding is not within the FCC's mandate. He closed by saying that, even after September 11, as Churchill said: "We are still masters of our fate; we are still captains of our souls."

Presentation by Ari Wax. Ari Wax, Deputy Commissioner of the New York Police Department ("NYPD"), said the bravery and courage of the New York police, firefighters, and rescue officials saved between 20,000 and 25,000 people at the World Trade Center. He noted that a reliable communications system played a critical role in the ability of rescue workers to communicate with each other and orchestrate the rescue. He described the communications challenges encountered by the police during the World Trade Center attack, but noted that the city's 911 system never failed because of careful planning and disaster recovery procedures in place prior to the World Trade Center attack. He pointed out that the 911 system did not fail because of diversity and redundancy (*i.e.*, the elimination of any single point of failure.) He said that preplanned interoperability communications protocols had worked but that commercial wireless systems were non-existent, or, at best, sporadic, due to the attack. He stated that constant command and control are essential, and Motorola, Verizon, AT&T, VoiceStream, Nextel, Cingular, Datamax, Time-Warner, IXP, and other vendors rendered significant assistance in reestablishing critical communications. He said the private sector could be a critical partner in

times of crisis. He further said operational needs must be ascertained and creative solutions must be delivered to solve communications problems. Additionally, communications personnel must be familiar with the key infrastructure and must work with operational units to assure continued security of key facilities. He indicated that, unfortunately, it became apparent during rescue efforts that protocols for interoperability were not adequately promulgated throughout the region, additional refinements were needed, and new protocols were under active consideration. For example, he said, the NYPD is working closely with the New York Metropolitan Advisory Council and expects issuance of those protocols soon. He stressed, though, that depite the failure of many forms of communication in the hours following the World Trade Center disaster, the NYPD's radio system remained operational at all times. He further stated that the September 11<sup>th</sup> attacks highlight the critical need for exclusive public safety communication systems that ensure secure quality transmission and reception.

Deputy Commissioner Wax commended the NCC for its work, saying it will lead to very tangible benefits for public safety communications. He noted that the NCC's role in advising the FCC on operational and technical parameters for use in the 700 MHz public safety band is a vital one. He also commended the FCC's actions on September 11 for, among other things, granting special temporary authority for conducting essential wireless communications. He discussed the DTV transition date, saying no one seriously suggests that the transition to digital TV would be completed by 2006. He said the delay is real and the potential harm is substantial because, if the band is not cleared of incumbent television stations, New York will face a critical spectrum shortage. He said the NYPD has constructed and implemented systems and interoperability channels on Channel 16 that are vital to providing logistical and command support, but public safety use of this channel is threatened particularly by low power television broadcasters. In addition, he said that Nassau County, New York's application to the FCC to operate on the 500 -506 MHz band, allocated for, but not used by TV Channel 19 should be granted. This would permit the NYPD, the fire department, Nassau County, and other agencies to be in the same UHF radio spectrum allowing for expanded use of Channel 16 interoperability channels. He closed by acknowledging the presence of Captain Kenneth Weinberg, NYPD commanding officer of the electronics section.

Presentation by Steven Gregory. Steven Gregory, Assistant Commissioner of the Fire Department of New York ("FDNY"), gave a compelling description of how fire communications were handled at the World Trade Center. In so doing, he played recordings of these communications involving his coordinating "ground zero" communications. He described to the meeting's attendees what incident commanders on the scene at the World Trade Center had to consider and accomplish, such as: determining the location of the command post and needing to move it from location to location; setting up multiple operation posts and staging areas; setting up a field communications operation and moving it; determining which radio channels the "handy talkies" on the fire ground frequencies were to use; and establishing tactical command and rescue channels. He said that, during the FDNY's response to the World Trade Center attack, the FDNY ground radio system was handling well over 1,000 handy talkies on three radio channels. Thus, interoperability, while a serious issue, was not his primary concern; rather, operability within his own fire department system was. Assistant Commissioner Gregory said many fire and EMS units from outside New York City also responded, and the FDNY's inability to communicate with them posed a serious safety issue, especially on the fire ground site. As for lessons learned, he said no amount of practice could have prepared the Department for what happened as it was the largest rescue mission ever, and disaster plans will have to be reviewed and updated. He said interoperability is a critical issue and presents numerous operational challenges. He closed his presentation by showing a videotape of the World Trade Center calamity surrounding his "ground zero" location where he was coordinating communications.

Presentation by Henry Jackson. Henry Jackson, Deputy Director, New York Mayor's Office of Emergency Management ("OEM"), explained that the OEM Director, Mr. Richard Schierer, was unable to address the NCC because he had to work with the Mayor in connection with Monday's plane crash. Mr. Jackson said that, among other things, that he is in charge of the OEM's technology section. He provided background on the OEM and described some recent emergencies within the last two years which the OEM has addressed. He explained that the OEM is the coordinating organization for incidents where there are multiple agencies required to respond, and he pointed out that interagency coordination and communication are critical. He described in some detail how the OEM functioned immediately after the World Trade Center attack and how its operations center, destroyed in the World Trade Center collapse, was reestablished in another location. Mr. Jackson emphasized the importance of both redundancy and diversity in public safety communications systems. He said interoperability for the OEM is a program of related technologies. He said that, in summary, there is a need for an interoperability network, the OEM offers whatever assistance the NCC may need in that regard, and he thanked the NCC for its efforts to improve communications among public safety organizations.

Presentation by Peter Meade. Peter Meade, Chief of the Nassau County Fire Department ("Nassau FD"), via PowerPoint presentation, described the make-up of the Nassau FD and its method of operations. He described how the Nassau FD deployed to the New York City area after the World Trade Center attack and how its communications were integrated with those of other disaster responders at the site. In closing his presentation, Chief Meade said that he was editorializing by saying that the New York major television networks were not working several days after the World Trade Center attack, but he did not hear anyone clamoring for access to television channels while public safety communications systems were inoperable. He said there are millions of people in the New York Metropolitan area who cannot live without an augmentation to the existing public safety communications channels and closed by saying, "television be damned!"

**Presentation by Steven Souder.** Steven Souder, Administrator of the Arlington County, Virginia Emergency Communications Center, began by saying that, on behalf of the Arlington County's Police Department and its Chief, Ed Flynn, and the Arlington County Fire Department and its Chief, Ed Plauger, and Mr. Souder's agency, he wanted to express gratitude, appreciation, and condolences to the members of the FDNY, the NYPD, and the Port Authority Police Department for 341 firefighters, 23 police officers, and 37 Port Authority police officers killed in the World Trade Center attack. He described public safety agencies' response to the Pentagon attack by first saying that, to the extent it went well, it was due to planning that ensued after the January 13, 1982, crash of a plane that took off from Washington National Airport, and crashed into the 14<sup>th</sup> Street Bridge (connecting Washington, D.C. and Arlington County). He said that the communications gridlock response to that tragedy prompted the availability of the first block of 800 MHz spectrum for public safety operations. He explained that the jurisdictions in Washington, D.C. area began working together to coordinate their public safety systems. With this backdrop, Mr. Souder described how pre-planned interoperability frequencies were used to coordinate communications among responders from several jurisdictions responding to the Pentagon attack. He said that based on the prior planning, along with some good fortune, the response to the attack and its aftermath went fairly well.

Remarks of Roger Platt. Roger Platt, Senior Vice President of the Real Estate Roundtable ("RER") in Washington explained that the RER membership has leaders in the real estate industry across the country, including major real estate builders-owners in New York and owners of the World Trade Center. He said the RER's number one issue over the last few months has

been building security and risk reduction, including communications during crises. He said that, in the industry and at the Roundtable organization in Washington, he has noticed a greater level of sharing of best practices and experiences, despite the competitive industry's inclination not to share technological trade secrets.

Presentation by John Gilbert. John Gilbert, RER member, CEO and Chief Technology Officer for Rudin Management, and Chairman of the Real Estate Board of the New York Task Force, described his experience at the World Trade Center shortly after the beginning of the attack. He said that Rudin Management is the largest privately-owned real estate owner in lower Manhattan and because landline communications and cell phones were not working due to the attack, the most helpful device was the e-mail pager. A list serve was created to send immediate e-mails to all Rudin building managers having the devices. He said he was asked to head the taskforce to rebuild both the power system and the telecommunications systems in lower Manhattan. Mr. Gilbert said what is needed is to create a carrier-neutral, totally diverse, self-healing wire, and fiber and wireless network. Otherwise, lower Manhattan will be a ghost town because no one would return to live and work there. He said the lesson from the attack was to have multiple and redundant levels of communications to accommodate single-system failures.

Nextel Proposal. Steering Committee member Chief Harlin McEwen said public safety has been experiencing severe interference problems from commercial and cellular systems in the 800 MHz band where public safety is interleaved with other systems and on the NPSTC channels. He stated that, as a result, Nextel, whose systems have been a major source of the interference, met, with public safety community representatives of the National Public Safety Telecommunications Council, APCO, the International Association of Chiefs of Police, and the International Association of Fire Chiefs at Nextel headquarters on October 24, to discuss a solution that Nextel believed would either eliminate or reduce the interference. He gave a broad outline of Nextel's proposal, namely, realigning frequencies at 700 MHz, 800 MHz, 900 MHz, and 2 GHz, with public safety realizing an additional 10 MHz of spectrum in the 800 MHz band. Chief McEwen indicated that, with regard to the proposal, the public safety community is reviewing issues of funding and the retuning of equipment. He said the proposal could be one of the most significant improvements in public safety communications in many years, that it would cost public safety money, but that the public safety community is likely to weigh in strongly in favor of the proposal. He expected Nextel to file its proposal with the FCC soon.

Introduction of Present Steering Committee Members. At Mr. Wilhelm's request, the Steering Committee members present then introduced themselves as follows: Tim Lowenstein, representing counties in the National Association of County Officials; Harlin McEwen, representing the IACP, Bob Lee, representing the Public Safety Wireless Network ("PSWN") Program for the Department of Justice; Wayne Leland (alternate), representing Motorola; Marilyn Ward, representing NPSTC; and Steve Proctor, representing state and local members of the PSWN Program.

(A five-minute break then was taken, with the meeting in recess at approximately 12:15 p.m. and resuming at 12:20 p.m.)

Panel addressing Clearing Television Channels 60-69 Stations from 700 MHz Public Safety Band. A panel of experts addressing the issue of clearing the 700 MHz band of incumbent television stations assembled, with Mr. Wilhelm serving as moderator. The panel consisted of: Robert Gurss, law firm of Shook, Hardy and Bacon, LLP, and counsel to APCO; David Eierman, Motorola; Bryan Tramont, Senior Legal Advisor to FCC Commissioner Kathleen Abernathy; Kathleen O'Brien-Ham, Deputy Bureau Chief, Wireless Telecommunications Bureau; and Robert

Schlieman, New York State Office for Technology, Statewide Wireless Network. Ms. Ham led off with a PowerPoint presentation, entitled, "FCC Band-Clearing Policies May Speed Availability of Spectrum For Public Safety Uses" on actions that the FCC has taken to free up the 700 MHz spectrum for public safety. Included in her presentation was a case study of the New York City area, showing the areas in which 700 MHz public safety communications could be conducted if the band were freed of certain conflicting television stations. She also addressed recent Commission actions that should facilitate band clearing.

The panelists also discussed the technical aspects of band clearing. Bob Gurss and the panel discussed press reports that the 700 MHz band might be less desirable to commercial interests than originally thought; and that the 700 MHz frequencies currently destined for commercial use might better be given over to homeland defense purposes. Dave Eierman discussed the importance of clearing the band in order to avoid adjacent channel interference issues. Bryan Tramont discussed the impact that DTV must-carry and mandatory DTV reception capability in television receivers might have on the acceleration of the DTV transition date. Bob Schlieman discussed Canadian television allotment effects on using the 700 MHz spectrum for public safety use in the U.S. Don Bishop, Mobile Radio Technology Magazine, asked about potential interference to public safety from commercial wireless carriers that might occupy the band, and several panelists addressed the matter.

(Whereupon the meeting was recessed for lunch at 12:45 p.m. and resumed at approximately 2:00 p.m.)

Presentation by John Oblak. John Oblak, Chairman of TIA's Engineering Committee for Private Radio, expressed appreciation for the NCC's asking TIA to develop standards for wideband data in the 700 MHz band and reported on the progress on the development of a 700 MHz wideband data standard. He then gave a PowerPoint presentation concerning the NCC's requirements for wideband data operations at 50 kHz, 100 kHz, and 150 kHz, operating at various speeds. He said that these systems are required to have basic text messaging, interoperability and mobile handheld radio support. He indicated that the document for the wideband system standards definition was written, and approved for ballot at TIA's August meeting. At its meeting on October 1, TIA agreed to publish it. Thus, the document will become a Telecommunications Systems Bulletin. Mr. Oblak said TIA also is undertaking the wideband air interface standard, and at its October meeting, agreed to send two technologies to ballot. He showed the suite of standards that TIA anticipates as defining wideband data and discussed documents representing the subset of standards that will define interoperability. He discussed various reference modules and protocol models for operations, radio-to-fixed network, radio-toradio, and radio-to-radio through a repeater, with deliverables for the first-half of next year, i.e., the publication of a document for a physical layer standard. He indicated that other deliverables were expected in the second half of 2002 for wide band MAC/LLC and RLA layers. He said he was aware of the NCC's mandate to complete its work by February 2003, and that TIA is trying to work toward a schedule to accommodate the NCC.

<u>Carlton Wells.</u> Mr. Wilhelm reported that Carlton Wells, State of Florida, has tendered his resignation as member of the NCC's Implementation Subcommittee because of other duties having been assigned to him, *i.e.*, ensuring the success of the Florida statewide 800 MHz system. Mr. Wilhelm expressed appreciation on his behalf and on behalf of the NCC for the fine work accomplished by Mr. Wells.

<u>Presentation of David Byrum.</u> David Byrum, Pinellas County, Florida Sheriff's Office, gave a PowerPoint presentation, entitled, "The Greenhouse Project Experimental Wideband Data." Mr.

Byrum's presentation provided information about the Project, which uses the SAM protocol in Pinellas County. He said it was the first field-deployed wideband data system in the world, operating at 460 kps, with integrated voice and data, video and full duplex voice. Saying that the Project is a "subset" of what could be a future system, he explained that the Project is a preproduction research project, not an alpha or beta test, but currently is used by the County's officers. He showed a video demonstrating some practical applications of the Project; the video consisted of four separate vignettes, namely: a traffic stop, community policing, a crime scene investigation, and a drug sting.

Interoperability Subcommittee. John Powell, Chair of the Subcommittee, read a letter to be transmitted to NCC Chair Wallman and DFO Wilhelm which would serve as the Subcommittee's report of its meeting the previous day -- a joint session with the NCC's Technology Subcommittee. Mr. Powell said the Interoperability Subcommittee took two actions. First, it revisited the most appropriate standard for voice encryption on interoperability channels in the 700 MHz band and, after considerable discussion, the Subcommittee was recommending that the Technology Subcommittee reconsider the encryption standards issue. He said the Subcommittee believed a more appropriate standard is the Advanced Encryption Standard ("AES") and the Subcommittee recommends that the Steering Committee immediately notify the manufacturing community that this issue is being reconsidered. Second, Mr. Powell brought to the Steering Committee's attention that, at today's General Membership meeting, Mr. Robert E. Lee, PSWN Program Manager, will present the recommendations of the Interoperability Subcommittee Working Group No. 2, regarding mandatory use of the Incident Command System ("ICS") including a recommended nomenclature, and communications command structure, plus use of plain language and priority access protocols for incidents involving use of 700 MHz interoperability channels. Mr. Powell further said that the events of September 11 showed that the ICS played a critical role in managing one of the most complex public safety responses in the nation's history and highlighted the need to quickly forward this recommendation to the FCC for its consideration.

Presentation by Robert Lee. Bob Lee, Program Manager of PSWN for the Department of Justice, said his group was tasked to assist the Interoperability Subcommittee Working Group No. 2 with developing a "white paper" on the ICS. He said his intention was to introduce the report, copies of which were made available at the meeting. He presented a PowerPoint presentation to provide a short explanation of the history of the ICS, identified the basic attributes of ICS, and introduced this white paper as a recommendation urging mandatory adoption of the ICS to govern the use of interoperability channels. He stated that the primary benefit of the ICS is standard procedures, *i.e.*, having a protocol to follow as interoperability is implemented.

In response to a question from Mr. Wilhelm seeking clarification for the FCC, Mr. Lee explained that ICS use of plain language means avoiding the use of tactical codes.

Public Participation/Discussion. Bob Schlieman said he was asked by Mr. Powell to put on the record (in Mr. Powell's absence) a letter, dated November 15, from Mr. Powell, Interoperability Subcommittee Chair, to Ms. Wallman and Mr. Wilhelm. Mr. Schlieman then read the letter, which stated that the Public Safety Wireless Advisory Committee ("PSWAC") identified an immediate need, within five years, for 25 MHz of spectrum to meet critical interoperability and operational needs of local and state public safety agencies, and that today's NCC meeting in New York City poignantly brings home the need to address communications interoperability problems during the largest terrorist act ever in the U.S., which occurred on the fifth anniversary of release of the PSWAC Report. Mr. Schlieman continued, saying that the work of the NCC is pivotal in providing guidance to the FCC, manufacturers, and users of the newly-allocated 700 MHz public

safety spectrum; but that the majority of this spectrum still is encumbered by television stations in the major metropolitan areas of the U.S., with no guarantee of relief in the foreseeable future. Additionally, he said, the time to clear the spectrum for public safety use is now, and the Congress and FCC must put aside politics, monetary and other issues blocking the immediate availability of the spectrum for public safety use. He said that the Interoperability Subcommittee urges the NCC Steering Committee to immediately move the issue of spectrum availability to the top of its action agenda.

Mr. Wilhelm expressed the NCC's gratitude to IXP Corporation and Motorola for sponsoring the meeting space and providing for refreshments for yesterday's subcommittee meetings and today's General Membership meeting. He also thanked Ted Dempsey for his help in organizing the meetings and scheduling several of the speakers who addressed today's meeting.

<u>Close of Meeting</u>. Mr. Wilhelm said it was virtually impossible to leave today's meeting without the impression that the spirit of New York City and its public safety professionals is absolutely unbreakable. He then thanked the attendees for being at the meeting and said he hoped to see them at the next NCC meetings in Washington, D.C., on January 31 and February 1, 2002.

(Whereupon the meeting was adjourned at 3:00 p.m.)

	Prepared by:	Bert Weintraub Attorney Advisor Public Safety & Private Wireless Division Wireless Telecommunications Bureau Federal Communications Commission
Certified as to accuracy:		
Michael Wilhelm		_
Date		

## NCC ATTENDANCE ROSTER FOR November 16, 2001

Last Name	First Name	Meeting Date
Ashley	Don	November 16, 2001
Baer	Sandra	November 16, 2001
Ballentine	Greg	November 16, 2001
Belt	William	November 16, 2001
Bishop	Don	November 16, 2001
Bradshaw	Thera	November 16, 2001
Breneiser	Craig	November 16, 2001
Brown	Michael	November 16, 2001
Byrum	David	November 16, 2001
Cahill	M.	November 16, 2001
Calderon	Alex	November 16, 2001
Caldwell	Alan	November 16, 2001
Caronia	Greg	November 16, 2001
Clinton	Chuck	November 16, 2001
Cohn	Stanley	November 16, 2001
Collins	Denis	November 16, 2001
Condello	Kathrny	November 16, 2001
Cottrill	Daniel	November 16, 2001
Dean	Florence	November 16, 2001

Last Name	First Name	Meeting Date
DeMello	Richard	November 16, 2001
Dempsey	Edward J.	November 16, 2001
Eierman	David	November 16, 2001
Ensminger	Robert	November 16, 2001
Epper	Bob	November 16, 2001
Fallon	Frank	November 16, 2001
Fenichel	Robert	November 16, 2001
Frye	Richard	November 16, 2001
Funk	David	November 16, 2001
Gardner	Bill	November 16, 2001
Geisel	Robert	November 16, 2001
Gerbush	Monty H.	November 16, 2001
Gilbert	John	November 16, 2001
Gillory	Ronald	November 16, 2001
Goodall	Tim	November 16, 2001
Greczyn	Mary	November 16, 2001
Griffin	Fred	November 16, 2001
Gurss	Robert	November 16, 2001
Hall	Wray	November 16, 2001

Last Name	First Name	Meeting Date
Haraseth	Ron	November 16, 2001
Hassett	James	November 16, 2001
Hughes	Jacqueline	November 16, 2001
Ittner	Al	November 16, 2001
Jackson	Henry	November 16, 2001
John	Joseph	November 16, 2001
Kaluta	Roman	November 16, 2001
Kehoe	Vincent E.	November 16, 2001
Kol	Alexandra	November 16, 2001
Lee	Henry C.	November 16, 2001
Lee, Jr	Robert E.	November 16, 2001
Leland	Wayne	November 16, 2001
Loewenstein	Timothy	November 16, 2001
May	Paul	November 16, 2001
Mayer	Paul M.	November 16, 2001
Mayworm	Ronald	November 16, 2001
McDowald	Steve	November 16, 2001
McEwen	Harlin	November 16, 2001
McGahey	Gene	November 16, 2001

Last Name	First Name	Meeting Date
Meade	Peter W.	November 16, 2001
Melendez	Felix	November 16, 2001
Melia	Anthony	November 16, 2001
Mercurio	Steve	November 16, 2001
Moy	Philip	November 16, 2001
Nash	Glen	November 16, 2001
Neville	Jerry	November 16, 2001
O'Shea	Michael K.	November 16, 2001
Oblak	John	November 16, 2001
Pallans	Mark	November 16, 2001
Palmer	Clark	November 16, 2001
Parsons	Jeff	November 16, 2001
Pickeral, J.D.	David	November 16, 2001
Platt	Roger	November 16, 2001
Powell	John	November 16, 2001
Proctor	Steven	November 16, 2001
Ramsey	John	November 16, 2001
Rinehart	Bette	November 16, 2001
Roy	Adam	November 16, 2001

Last Name	First Name	Meeting Date
Ryan	Tim	November 16, 2001
Saliba	Jean-Pierre	November 16, 2001
Santaniella	John	November 16, 2001
Schlieman	Robert F.	November 16, 2001
Shahnami	Alireza (Ali)	November 16, 2001
Sifert	Roy	November 16, 2001
Smith	Ray	November 16, 2001
Smith	Raymond R.	November 16, 2001
Souder	Steve	November 16, 2001
Speights	Don	November 16, 2001
Stile	Vincent	November 16, 2001
Tolman	Tom	November 16, 2001
Vaughan	Don	November 16, 2001
Verbil	Stephen	November 16, 2001
Vogel	Emil	November 16, 2001
Ward	Marilyn	November 16, 2001
Wax	Ari	November 16, 2001
Weinberg	Ken	November 16, 2001
Wells	Carlton	November 16, 2001

Last Name	First Name	Meeting Date
Wells	Carlton	November 16, 2001
Yakoob	Muhammed	November 16, 2001
Yurman	Joseph	November 16, 2001
Zehner	Zachary	November 16, 2001
Zuvical	C. O. S.	November 16, 2001

**Total for Attendance Roster: 100**